

PATENT CLAIMS

1. (currently amended) A method for recovery of metals, in particular copper, from copper-bearing raw material that contains iron and sulphur, where said raw material is leached into an aqueous solution of copper chloride and hydrochloric acid, whereby iron and sulphur remain in a deposit formed in leaching, the method comprising:
~~characterized in that~~

adjusting a ~~[[the]]~~ redox potential of ~~[[the]]~~ a copper-containing raw material leach in a leaching stage, ~~is adjusted~~ using a feed of an oxydating agent to the range of 480 – 500 mV with regard to an Ag/AgCl electrode, whereby copper and other valuable metals in the copper chloride solution coming from leaching are mainly divalent~~[[,]]~~;

feeding the cupric chloride solution ~~is fed~~ to a liquid-liquid extraction~~[[,]]~~stage;

separating ~~with which~~ copper is ~~separated~~ from the cupric chloride solution in the liquid-liquid extraction stage; ~~and is transferred in stripping~~

transferring the copper to a stripping stage having an aqueous solution of sulphuric acid~~[[,]]~~; and

feeding the copper in the aqueous solution of sulphuric acid ~~which is fed~~ to an electrowinning stage for recovery of elemental copper.

2. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the oxydating agent is oxygen.

3. (currently amended) A method according to claim 1, ~~characterized in that~~ wherein the oxydating agent is air.

4. (currently amended) A method according to ~~any of the above claims,~~
~~characterized in that~~ claim 1, wherein the liquid-liquid extraction of the cupric chloride
solution is performed in two extraction stages.

5. (currently amended) A method according to claim 4, ~~characterized in~~
~~that~~ wherein a part of the aqueous solution coming from ~~[[the]]~~ a first extraction stage is fed
back to the leaching of the copper-bearing raw material.

6. (currently amended) A method according to claim 4 ~~or 5,~~
~~characterized in that~~ further comprising neutralizing, a ~~[[the]]~~ part of the aqueous solution fed
to ~~[[the]]~~ a second extraction stage ~~is neutralized before being fed~~ feeding to said second
extraction stage.

7. (currently amended) A method in according to ~~any of claims 4—6,~~
~~characterized in that~~ claim 4, wherein the extraction stages operate in parallel connection in
relation to ~~[[the]]~~ a flow of organic solution.

8. (currently amended) A method according to ~~any of the above claims,~~
~~characterized in that~~ claim 1, wherein ~~[[the]]~~ extraction occurs at ~~temperature is~~ a maximum
temperature of 40°C.

9. (currently amended) A method according to ~~any the above claims,~~
~~characterized in that~~ claim 1, wherein an ~~[[the]]~~ aqueous solution of sulphuric acid fed to the
stripping stage is a return acid from the copper electrowinning stage.

10. (currently amended) A method according to ~~any of the above claims,~~
~~characterized in that~~ claim 1, further comprising precipitating ~~[[the]]~~ other valuable metals
~~[[in]]~~ of the copper-containing raw material ~~such as nickel, cobalt and zinc are precipitated~~
from the aqueous solution after extraction using alkali hydroxide precipitation.

11. (currently amended) A method according to ~~any of the above claims,~~
~~characterized in that~~ claim 1, wherein the copper-bearing raw material contains precious
metals such as gold and/or platinum group metals (PGM).

12. (currently amended) A method according to claim 11, ~~characterized in~~
~~that further comprising precipitating~~ gold and/or platinum group metals (PGM) ~~are made to~~
~~precipitate~~ in connection with ~~raw material leaching in~~ precipitation of sulphur and iron, the
gold and/or platinum group metals being precipitation and are recovered from ~~[[the]]~~ a
precipitate deposit during a sulphur flotation stage.

13. (currently amended) A method according to ~~any of the above claims,~~
~~characterized in that~~ claim 11, wherein a ~~[[the]]~~ pH value in the copper-bearing raw material
leaching is at least 1.5.

---14. (new) A method according to claim 10, wherein the other valuable
metals are selected from the group consisting essentially of nickel, cobalt and zinc.---